

## CLAIMS

What is claimed is:

1. A motion detection apparatus comprising:  
a motion detection unit sequentially being input with a plurality of fields that are temporally successive and detecting motion information values representing presence and absence of a motion for each pixel/block of an input  $n$ th field;  
a motion calculation buffer storing the motion information values for each pixel/block;  
and  
a motion calculator correcting the motion information values of the input  $n$ th field stored in the motion calculation buffer unit, based on the motion information values of an input  $n+1$ th field detected by the motion detection unit.
2. The motion detection apparatus of claim 1, further comprising a motion expansion unit expanding an extent of a pixel motion detected based upon a motion information value from the pixel with the motion to a neighboring pixel.
3. The motion detection apparatus of claim 1, wherein the motion detection unit calculates each motion information value based upon a previous field and a next field immediately before and after the  $n$ th field, respectively, and depending on a difference of the pixel values between pixels/blocks at corresponding locations in the previous field and the next field.
4. The motion detection apparatus of claim 1, wherein the motion calculation unit corrects the motion information values of the input  $n$ th field, based on the motion information value for each pixel/block of the  $n+1$ th field, by adding a given first value to a motion information value stored in the motion calculation buffer unit if a corresponding pixel/block has motion, and subtracting a given second value from a motion information value stored in the motion calculation buffer unit if a corresponding pixel/block has no motion.
5. The motion detection apparatus of claim 4, wherein the given first value is greater than the given second value.

6. The motion detection apparatus of claim 4, wherein the motion calculation unit comprises:

an adder adding the given first value to the motion information value and outputting an added value;

a subtracter subtracting the given second value from the motion information value and outputting a subtracted value;

first and second limiters correcting the motion information values output from the adder and the subtracter to be within a certain range and outputting respective corrected motion information values of the limiters; and

a multiplexer selectively outputting either of the motion information values output from the first and the second limiters depending on a motion information value of the input  $n+1$ th field.

7. A motion detection method comprising:

sequentially inputting a plurality of fields that are temporally successive;

detecting motion information values representing presence and absence of a motion for each pixel/block of an input  $n$ th field;

storing the motion information values for each pixel/block; and

correcting the motion information values of the input  $n$ th field stored in the motion calculation buffer unit, based on the motion information values of an input  $n+1$ th field.

8. The motion detection method of claim 7, further comprising expanding an extent of a pixel motion detected from a motion information value from the pixel with the motion to a neighboring pixel.

9. The motion detection method of claim 7, wherein the detecting of the motion information values comprises calculating the motion information values based upon a previous field and a next field immediately before and after the input  $n$ th field, respectively, and depending on a difference of the pixel values between pixels/blocks at corresponding location in the previous field and the next field.

10. The motion detection method of claim 7, wherein the correcting of the motion information values comprises, for each pixel/block of the n+1th field, adding a given first value to a stored motion information value if a corresponding pixel/block has motion, and subtracting a given second value from a stored motion information value if the corresponding pixel/block has no motion.

11. The motion detection method of claim 10, wherein the given first value is greater than the given second value.

12. The motion detection method of claim 10, wherein the correcting of the motion information values further comprises:

adding the given first value to the motion information value and outputting the added value;

subtracting the given second value from the motion information value and outputting the subtracted value;

limiting the motion information values output from the adding and the subtracting to be within a certain range and outputting the corrected values of the adding and the subtracting; and

selectively outputting either of the motion information values output from the limiting depending on a motion information value of the input n+1th field.

13. A moving image processor, comprising:

a motion detector detecting motion information values representing presence and absence of a motion for each pixel/block of an input nth image field; and

a motion calculator adjusting the detected motion information values of the input nth image field based upon motion information values of an input n+1th image field.

14. The processor of claim 13, wherein the motion calculator calculates a mixed value ( $\alpha$ ) according to the adjusted detected motion information values of the input nth image field and outputs the mixed value to a deinterlacing processor outputting an image frame based upon the mixed value.

15. The processor of claim 14, wherein the deinterlacing processor mixes intra-field and inter-field interpolation outputs and the adjusted detected motion information values to output the image frame.

16. The processor of claim 13, wherein the motion information values are adjusted according to a formula  $V(i, j) = V(i, j) + T1$  or a formula  $V(i, j) = V(i, j) - T2$ , and wherein the  $V(i, j)$  represents a motion information value for  $j$ th pixel on line  $i$ th of the input  $n$ th image field, and  $T1$  and  $T2$  are random first and second values within a predetermined range, respectively.

17. A machine readable storage storing at least one program controlling a moving image processor according to a process comprising:

removing spurious still regions and spurious motion regions during an image field motion detection based upon a limited added to or a limited subtracted from pixel motion information values of a current image field using only immediately preceding and succeeding image fields to the current image field.